



TEIN3 FAQ - Frequently Asked Questions – December 2008

What is TEIN3?

The third generation of the Trans-Eurasia Information Network (TEIN3) provides a large-scale research and education data-communications network for the Asia-Pacific region. It connects regional researchers to each other and with their counterparts in Europe via direct links to Europe's GÉANT2 network, providing the Asia-Pacific countries with a gateway for global research collaboration. Operating at speeds of up to 2.5 Gbps it currently connects eleven countries in the region and is scheduled to run until 2011.

How is TEIN3 funded?

TEIN3 is co-funded by from the European Union's EuropeAid Programme and the the beneficiary Asian partners (total approx. US\$ 25 million). Further substantial funding and link capacity is being provided by the more advanced Asia-Pacific partners.

The TEIN3 project will contribute towards the development of funding and organisational models to lead to long-term stability and sustainability of the network.

How many users are connected to the TEIN3 network?

TEIN3 currently supports a community in excess of 30 million users in approx. 4000 institutions in 11 countries. Its direct links to Europe's GÉANT2 network create a potential user base of more than 60 million.

What are the origins of TEIN3?

TEIN3 represents a significant development of the Trans-Eurasia Information Network (TEIN) initiative, which was an outcome of the Asia-Europe Meeting (ASEM) Summit in 2000 (ASEM 3) to improve research networking between Europe and Asia-Pacific. Through TEIN the first Europe-Asia link dedicated for research and education (TEIN1) was established in December 2001, with a connection between France and South Korea.

Demand for increased capacity drove the development of regional connections. ASEM 6 in Helsinki in September 2006 marked the official inauguration of TEIN2, which extended the bilateral success of TEIN1 to the regional level by creating the first large-scale regional data-communications network for research and education across the Asia-Pacific region, linking ten countries in the region to each other and to Europe.

In October 2008, leaders at ASEM 7 in Beijing recognised the success of the TEIN initiative in fostering research collaboration between ASEM partners and renewed their commitment to its long-term sustainability by announcing TEIN3.



How does TEIN3 distinguish itself from its predecessor?

Building on the achievements of its predecessors, the TEIN3 project marks a further major step towards an inclusive information society in the Asia-Pacific region: not only does the new network provide upgraded link capacity, it also sets out to expand its geographical footprint to connect additional Asian countries. This includes a feasibility study to extend TEIN3 into the South Asia sub-region, involving Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka, as well as individual discussions with other interested countries, such as Cambodia.

How does TEIN3 reflect the objectives of the ASEM initiative?

TEIN3 is a continuing ASEM success story, addressing the themes of the ASEM initiative and its overall objective of strengthening links between Europe and Asia. TEIN3 fosters regional cohesion and development, enhances international collaboration and bridges the digital divide. TEIN3 supports the European Union's strategy for promoting global research networking connectivity.

Why do we need TEIN3?

TEIN3 promotes digital inclusion in Asia-Pacific. Some countries, such as Japan and Korea have highly developed research networks. Other networks, like those of Vietnam and Thailand are still in their infancy. TEIN3 promotes regional cohesion, creating more equal access to cutting-edge network resources. It acts as a catalyst by stimulating the development of research networking in the less advanced countries. In addition, many of today's global challenges require global collaboration to tackle issues such as climate change, avian influenza and HIV/AIDS. TEIN3 fully integrates Asian researchers into the Global Information Society.

How is TEIN3 organised?

TEIN3 is a network of networks. It provides international connectivity between national networks in the region. Each national research and education network (NREN) provides connectivity to universities and research centres in their country. TEIN3 connects partner NRENs across the continent to create an integrated Asian research and education community.

How is the TEIN3 network constructed?

TEIN3 operates at speeds of up to 2.5 gigabits per second – the equivalent of sending 30 blockbuster-movie files down a phone line every minute. Regional connectivity extends from three network hubs in Beijing, Singapore and Hong Kong to connect eleven countries. It provides two direct routes to Europe, an overland route from Beijing to Copenhagen and a submarine route between Singapore and London. Routing equipment at the TEIN3 hubs is sponsored by Juniper Networks.

Does TEIN3 interconnect with other world regions?

TEIN3 has fast, direct connections to Europe and the GÉANT2 network, meaning Asian researchers no longer have to go via the longer US route to reach Europe - which significantly improves the performance of many network applications.



GÉANT2's connections to other world regions include Latin America (www.dante.alice.net), the Mediterranean and the Middle East (www.eumedconnect2.net) and create a global gateway for research collaboration. In addition, connectivity to North America is provided via the TransPAC2 network, which is making bandwidth available to the TEIN3 partners.

How does TEIN3 represent value for money?

Like its predecessor, TEIN3 has been brought into service quickly and efficiently, using an established European model for research networking. Without TEIN3, many partners could not secure cost-effective access to high bandwidth capacities. The cohesive approach to international connectivity offers significant savings compared to deploying multiple bi-lateral connections between individual Asian partners and Europe. TEIN3 is managed by DANTE, who have experience in building research and education networks around the world, on behalf of the European Commission.

Who are the project partners?

The TEIN3 project partners are the research networking organisation DANTE, the European Commission, and national research and education networks (NRENs) in Europe and Asia. The Asian beneficiary partners are China, Indonesia, Laos, Malaysia, the Philippines, Thailand and Vietnam; the non-beneficiary partners are Japan, Korea and Singapore. Australia and TransPAC2 are also actively participating. The European partners are RENATER, SURFnet and UKERNA, the NRENs of France, the Netherlands and the United Kingdom respectively.

How long will TEIN3 run?

Initiated in 2008, TEIN3 is scheduled to run until 2011.

What plans are in place for life after TEIN3?

The project partners are currently looking at the feasibility of extending the project beyond 2011, to build on the achievements of TEIN3, and address the question of sustainability. Developments include further upgrading link capacity and extending the geographical reach of TEIN3 to the South Asian sub-region and other interested countries in the region, such as Cambodia.

A central objective of the TEIN3 project is to transfer network management to Asian ownership.

What applications will use this network?

Any type of not-for-profit research and education activity can use the network. TEIN3's applications include supporting disaster-warning systems, tele-medicine, e-learning, crop research, earth observation and radio astronomy, to name but a few. Many of the applications supported by TEIN3 are of high societal impact, bringing direct benefit to the general population. With more than 30 million potential users, the applications of the network are almost limitless.



How successful do you think the TEIN3 network will be?

TEIN3 is already successfully operating a large-scale research and education network for Asia-Pacific, and has been brought into service quickly and efficiently. With many research disciplines already embracing the new connectivity, increased usage of the network is expected, as well as extending TEIN3 to other countries in the region. Creating closer working relationships with Europe will build international research communities to tackle issues of global importance.

Why should researchers use TEIN3?

TEIN3 is reserved solely for the purpose of supporting research and education. It delivers high bandwidth connections which are free from the congestion of commercial internet traffic.

How do I connect to TEIN3?

To benefit from the TEIN3 infrastructure, prospective users should contact their local NREN, to establish whether their host institution is already connected. If it is, they are ready to use TEIN3! If it isn't, the national network will advise them of the application procedure. Contact details for each NREN are supplied on the TEIN3 website:

www.tein3.net